

**NOISE STUDY**  
**CARNEVALE RESIDENTIAL LOT SPLIT**  
**TPM 21133**  
**APN 513-092-34**

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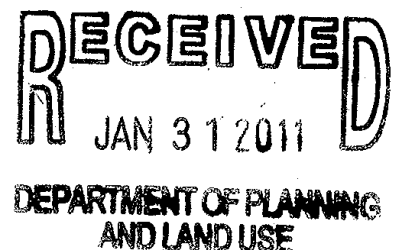
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## **TABLE OF CONTENTS**

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<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION .....	1-1
1.1 Project Location and Description .....	1-1
1.2 Applicable Noise Regulations and Standards .....	1-1
1.3 Environmental Settings and Existing Conditions .....	1-4
1.4 Methodology and Equipment.....	1-5
2.0 NOISE SENSITIVE LAND USES (NSLUs) .....	2-1
2.1 Guidelines for Determination of Significance .....	2-1
2.2 Potential Noise Impacts .....	2-2
2.3 Mitigated Noise Impacts .....	2-2
2.4 Conclusions .....	2-2
3.0 CONSTRUCTION ACTIVITIES .....	3-1
3.1 Guidelines for Determination of Significance .....	3-1
3.2 Potential Noise Impacts .....	3-2
3.3 Mitigated Noise Impacts .....	3-4
3.4 Conclusions .....	3-4
4.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS.....	4-1
5.0 CERTIFICATIONS .....	5-1

## **APPENDICES**

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COUNTY OF SAN DIEGO NOISE STANDARDS .....	A
FUTURE 60 dBA CNEL NOISE CONTOUR MODEL .....	B

## **LIST OF EXHIBITS**

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<u>EXHIBIT</u>	<u>PAGE</u>
1-A LOCATION MAP.....	1-2
1-B SITE PLAN.....	1-3
1-C MONITORING LOCATIONS .....	1-6
2-A NOISE CONTOURS.....	2-3

## **LIST OF TABLES**

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<u>TABLE</u>	<u>PAGE</u>
1-1 EXISTING (AMBIENT) NOISE LEVEL MEASUREMENTS.....	1-7
3-1 CONSTRUCTION EQUIPMENT NOISE LEVELS .....	3-3
3-2 CONSTRUCTION NOISE LEVELS .....	3-5

## **EXECUTIVE SUMMARY**

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This noise study has been completed to determine the noise impacts associated with the development of the proposed TPM 21133 Residential Lot Split in El Cajon, CA. The proposed project is a five (5) lot residential subdivision. The project consists of four new residential lots and one remainder lot on 12.44 acres with a minimum lot size of 2-acres. The project site is located along Harbison Canyon Road north of Dehesa Road east of the City of El Cajon in the unincorporated Harbison Canyon community of the County of San Diego.

The results of this analysis indicate that future vehicle noise from Harbison Canyon Road is the principal source of community noise that could impact the site. However, due to the low number of future vehicles anticipated on this roadway, the 60 dBA CNEL contour will lie approximately 80-feet from the roadway centerline. Additionally, the proposed residential lots are located at least 390-feet from the roadway centerline with the remainder lot located between them and Harbison Canyon Road. Therefore no impacts from Harbison Canyon Road are anticipated.

Short-term construction activities may cause noise levels to exceed the County Ordinance at the adjacent residential property lines. According to the project applicant, a total of one loader, one dozer, one excavator, a dump truck and one water truck during grading activities will be required to complete the proposed grading operations. Results of the analysis indicate that the project will meet the County of San Diego 75 dBA CNEL standard for grading activities at all project property lines without mitigation.

## **1.0 INTRODUCTION**

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### **1.1 Project Location and Description**

This noise study has been completed to determine the noise impacts associated with the development of the proposed TPM 21133 Residential Lot Split. The project is located at 32°47' 43" N and 116°50' 37" W, along Harbison Canyon Road north of Dehesa Road east of the City of El Cajon in the Harbison Canyon community of the County of San Diego.

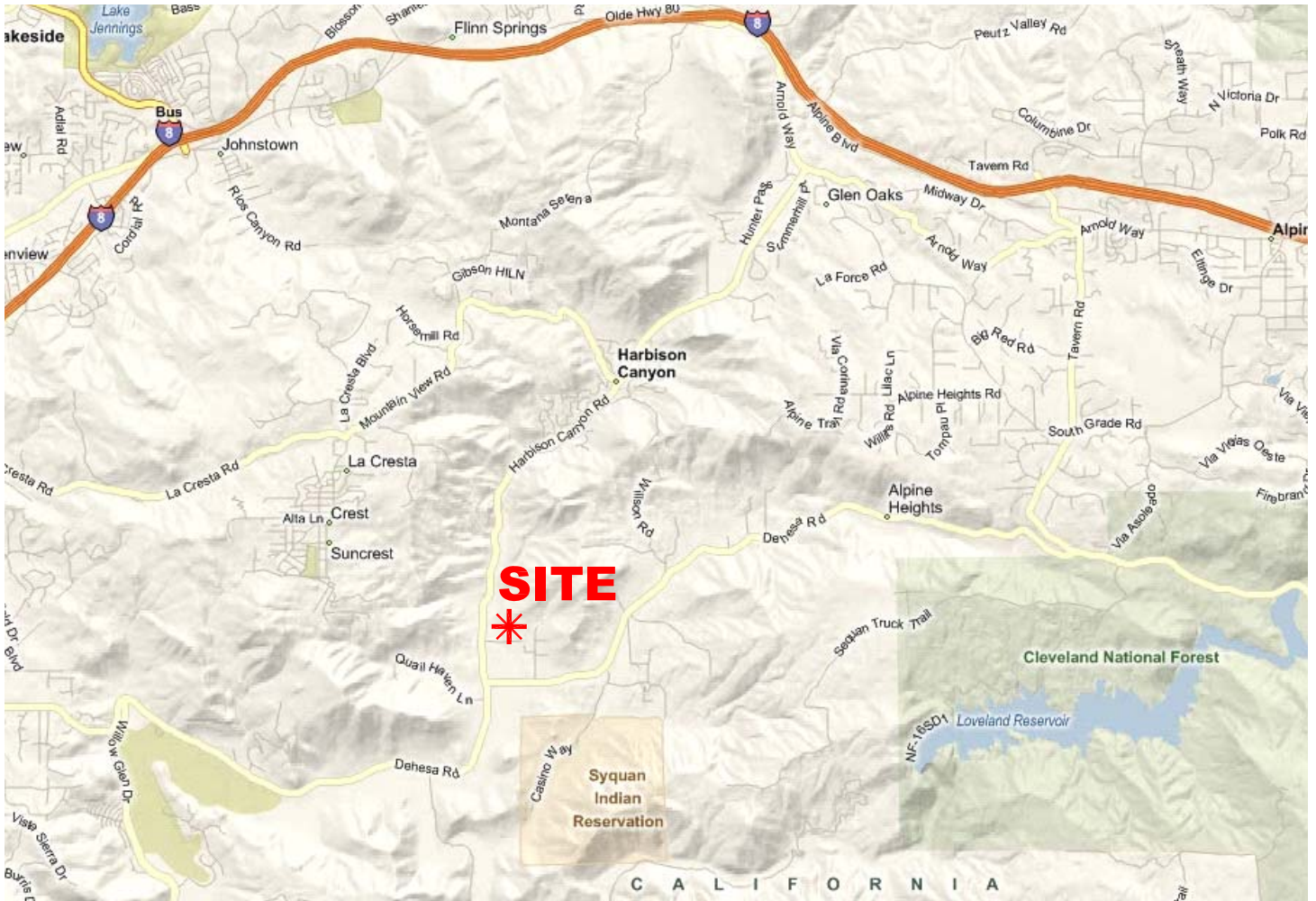
The proposed project is a five (5) lot residential subdivision. The project consists of four new residential lots and one remainder lot on 12.44 acres with a minimum lot size of 2-acres. The site is surrounded by open space to the north and residential uses to the south, east and west. The general location of the project is shown on the Location Map, Exhibit 1-A. The site plan used for this analysis is shown on Exhibit 1-B.

### **1.2 Applicable Noise Regulations and Standards**

The County of San Diego addresses two separate types of noise sources through the CEQA process: (1) mobile, and (2) stationary. In the context of this noise analysis, the noise levels associated with the proposed Bridges at Rancho Santa Fe Tennis Court Complex are regulated by the County of San Diego noise guidelines for determining significance and the Noise Ordinance. Those guidelines and standards are summarized below and provided as Appendix "A".

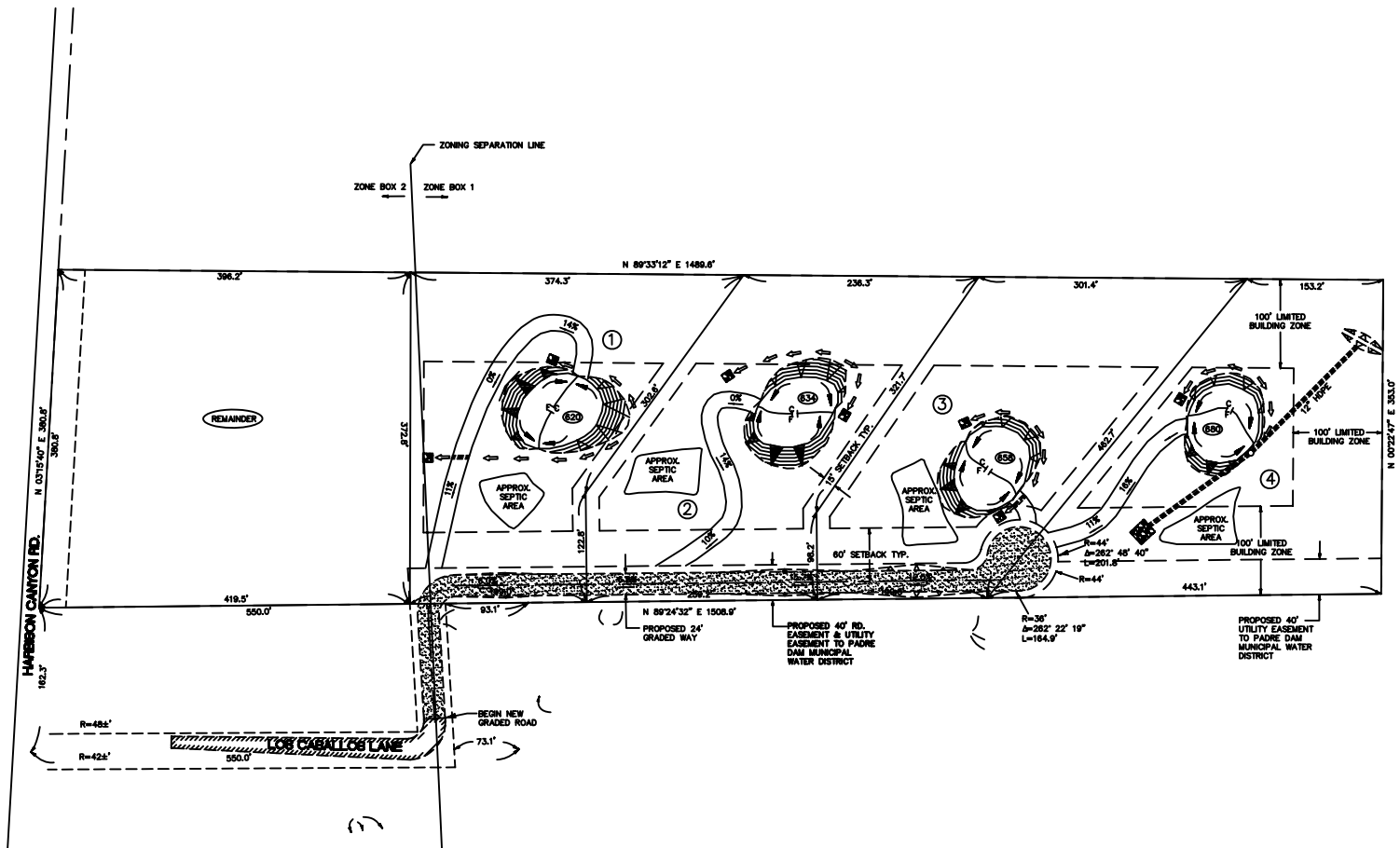
For assessing noise impacts to noise sensitive land uses, the Noise Element of the County of San Diego General Plan requires an exterior noise level of less than 60 dBA CNEL for outdoor living areas and an interior noise standard of 45 dBA CNEL. The County noise ordinance sets an operational exterior noise limit for residential

# EXHIBIT 1-A LOCATION MAP



# EXHIBIT 1-B

## SITE PLAN



noise sensitive land uses adjacent to the property of 50 dBA Leq for daytime hours of 7 a.m. to 10 p.m. and 45 dBA Leq during the noise sensitive nighttime hours of 10 p.m. to 7 a.m. The County of San Diego noise ordinance also controls construction equipment noise. It shall be unlawful to operate any construction equipment so as to cause at or beyond the property line of any property upon which a legal dwelling unit is located an average sound level greater than 75 decibels between the hours of 7 a.m. and 7 p.m.

### 1.3 Environmental Settings & Existing Conditions

#### 1.3.1 Settings & Locations

The project is located at 32°47' 43" N and 116°50' 37" W, along Harbison Canyon Road north of Dehesa Road east of the City of El Cajon in the Harbison Canyon community of the County of San Diego.

The proposed project is a five (5) lot residential subdivision in the rural setting of eastern San Diego County. The project consists of four new residential lots and one remainder lot on 12.44 acres with a minimum lot size of 2-acres. The site is surrounded by open space to the north and residential uses to the south, east and west. The current zoning for the project area is A-72, which allows for residential units with the acre minimum lot size, in addition to non-residential attached or detached buildings. The proposed parcels are consistent with the current zoning.

#### 1.3.2 Existing Noise Conditions

The project is located along Harbison Canyon Road north of Dehesa Road. Existing traffic noise occurs mainly from environmental ambient noise with minimal noise from Harbison Canyon Road.



## 1.4 Methodology and Equipment

### 1.4.1 Noise Measuring Methodology and Procedures

To determine the existing noise level environment and to assess potential noise impacts, measurements were taken at a worse-case location along Harbison Canyon Road. The noise measurement was recorded by Urban Crossroads, Inc. at 2:20 p.m. on November 18, 2008.

Noise measurements were taken using a Larson-Davis LxT Type 1 precision sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring, at the project site, using a Larson-Davis calibrator, Model CAL 200.

The noise monitoring location was selected based on the respective impact potential. Monitoring location 1 was located along Harbison Canyon Road. The noise monitoring location is provided in Exhibit 1-C.

The results of the noise level measurements are presented in Table 1-1. The noise measurements were monitored for a minimum time period of 15 minutes. The ambient Leq noise levels measured in the area of the project during the afternoon hour was found to be 41.4 dBA Leq at monitoring location 1. The existing noise levels in the project area consist primarily of ambient environmental noise and minimal traffic.

### 1.4.2 Noise Modeling Software

The expected roadway noise impact from Harbison Canyon Road was projected using Sound32, Caltrans' version of the FHWA's STAMINA 2.0/OPTIMA Traffic Noise Prediction Model. Sound32 is a peak hour Leq

## EXHIBIT 1-C



**TABLE 1-1**

**EXISTING (AMBIENT) NOISE LEVEL MEASUREMENTS<sup>1</sup>**

OBSERVER LOCATION <sup>2</sup>	DESCRIPTION	TIME OF MEASUREMENT	PRIMARY NOISE SOURCE	MEASURED NOISE LEVELS (dBA Leq)
1	Located along Harbison Canyon Road	2:20 PM	Minimal vehicle noise and ambient noise	41.4

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<sup>1</sup> Noise measurement taken for a minimum period of 15 minutes by Urban Crossroads Inc on November 18, 2008

<sup>2</sup> See Exhibit 1-C for the location of the monitoring site

based traffic noise prediction model. The results of this analysis are based on the Caltrans *Highway Design Manual* California Vehicle Noise Emission Levels (Calveno Curves). These curves more accurately reflect motor vehicle noise characteristics in the project area, and use of the Calveno curves is required by Section 1103.1 of the *Highway Design Manual*. The key input parameters, which determine the projected impact of vehicular traffic noise, include the lane travel speed, the percentages of automobiles, medium trucks and heavy trucks in the roadway volume, the site conditions ("hard" or "soft") and the peak hour traffic volumes.

The roadway was modeled with hard site conditions to predict the worse case future noise environment for all receptors based on the topography in the area and the monitoring results.

Since the Sound32 traffic noise model calculates the peak hour Leq dBA noise level, it is necessary to convert the results into CNEL values. The Leq to CNEL calculations are based on a typical vehicle distribution of over a twenty-four hour period with the appropriate noise penalties for the evening and nighttime periods. For the purpose of this analysis 80% of all vehicles were assigned during the daytime hours of 7 a.m. to 7 p.m., 7% during the evening hours of 7 p.m. to 10 p.m. and 13% during the nighttime hours of 10 p.m. to 7 a.m. Section N-2231 of the Caltrans Technical Noise Supplement outlines the procedures to calculate the CNEL values using the peak hour Leq.

To obtain the necessary coordinate information required by the Sound32 traffic noise prediction model, input data was taken using the site plans. The preliminary site plans provided by Lintvent, McColl and Associates dated October 10, 2008 were used to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to the noise barrier, the backyard observer and at the building façade to predict the future noise environment. For modeling purposes, traffic was consolidated

into a single lane located along the centerline of the road. Lane consolidation is considered an acceptable practice since the amount of error introduced by this simplification is negligible. The lanes were then subdivided into a series of contiguous segments for analysis. The nodes points on each road segment were then manually assigned an elevation using either the roadway centerline elevation or the elevation provided on the vertical roadway profile. For the purpose of this analysis, the roadway segments extend a minimum of 300 feet beyond any observer location. No grade correction or calibration factors (according to Caltrans Policy TAN-02-01 dated January 17, 2002) were included as part of the Sound32 traffic noise prediction model analysis.

To assess the future noise contours on the proposed project all first floor observers were placed five (5) feet above the proposed finished floor elevation at the building façade with all second floor observers located fifteen (15) feet above the proposed finished floor elevation.

#### 1.4.3 Noise Calculations

Noise has been simply defined as "unwanted sound". Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA).

The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak hour Leq is the noise metric used by Caltrans for all traffic noise impact analysis.

The Community Noise Equivalent Level (CNEL) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of five decibels to sound levels in the evening from 7 p.m. to 10 p.m., and the addition of ten decibels to sound levels at night between 10 p.m. to 7 a.m. These additions are made to the sound levels at these time periods because during the evening and night hours, with the decrease in overall amount and loudness of noise generated, when compared to daytime hours, there is an increased sensitivity to sounds. For this reason the sound appears louder and it is weighted accordingly. The County of San Diego relies on the CNEL noise standard to assess transportation related impacts on noise sensitive land uses.

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust and tires.

Because of the logarithmic nature of traffic noise levels, a doubling of the traffic noise (acoustic energy) results in a noise level increase 3 dBA. In other words, doubling the traffic volume (assuming that the speed and truck mix do not change) results in a noise increase of 3 dBA. The truck mix on a given roadway also has a significant effect on community noise levels. As the number of heavy trucks increases and becomes a larger

percentage of the vehicle mix, adjacent noise levels increase.

According to the Caltrans Technical Noise Supplement, sound from a small localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source. The sound level attenuates or drops-off at a rate of 6 dBA for each doubling of distance. A drop-off rate of 6 dBA per doubling of distance was used for all fixed noise sources.

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receiver by controlling the noise source, transmission path, receiver or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to any and all of these three elements and a noise barrier is most effective when placed close to the noise source or receiver.

To account for the ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft site and hard site conditions. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. To predict the worse-case future noise environment, hard site conditions were used for all floors in this analysis based on the topography in the site area and the monitoring results.

## **2.0 NOISE SENSITIVE LAND USES (NSLUs)**

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### **2.1 Guidelines for the Determination of Significance**

Project implementation will result in the exposure of any on- or off- site, existing or reasonably foreseeable future NSLU to exterior or interior noise (including noise generated from the project, together with noise from the roads [existing and planned], railroads, airports, heliports and all other noise sources) in excess of any of the following:

#### **A. Exterior Locations:**

- i. 60 dB (CNEL); or
- ii. An increase of 10 dB (CNEL) over pre-existing noise.

In the case of single-family residential detached NSLUs, exterior noise shall be measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum area:

(1) Net lot area up to 4,000 square feet:	400 square feet
(2) Net lot area 4,000 square feet to 10 acres:	10% of net lot area
(3) Net lot area over 10 acres:	1 acre

For all other projects, exterior noise shall be measured at all exterior areas provided for group or private usable open space.

#### **B. Interior Locations:**

45 db (CNEL) except for the following cases:

- i. Rooms which are usually occupied only a part of the day (schools, libraries, or similar facilities), the interior one-hour average sound level due to noise outside should not exceed 50 decibels (A).



- ii. Corridors, hallways, stairwells, closets, bathrooms, or any room with a volume less than 490 cubic feet.

## 2.2 Potential Noise Impacts

The results of this analysis indicate that future vehicle noise from Harbison Canyon Road is the principal source of community noise that could impact the proposed site. However, due to the low number of future average daily trips (ADT) anticipated on this roadway to be only 5,000 ADT, the 60 dBA CNEL contour will be only 80-feet from the roadway centerline (Source: County of San Diego Department of Planning and Land Use). The 60 dBA CNEL contour lines for first and second floors are shown on Exhibit 2-A and the Sound 32 modeling results are provided as Appendix B. The proposed residential lots are located at least 390-feet from the roadway centerline with the remainder lot located between them and Harbison Canyon Road. Therefore no impacts from Harbison Canyon Road are anticipated.

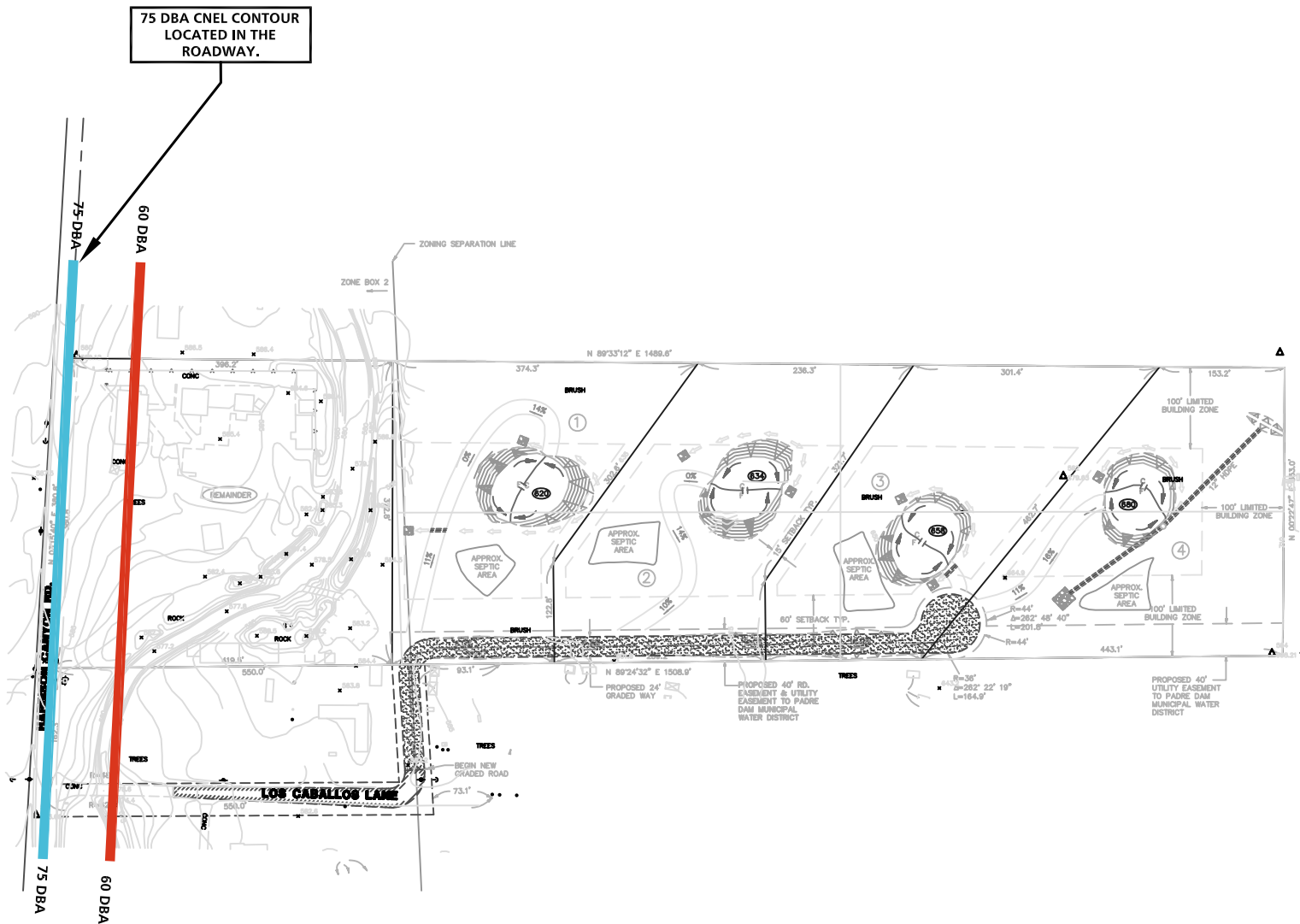
## 2.3 Mitigated Noise Impacts

There are no noise sensitive land uses proposed within the future 60 dBA CNEL contour on the project site, therefore mitigation measures are not necessary to meet the County of San Diego standards.

## 2.4 Conclusions

The 60 dBA CNEL contour will be approximately 80-feet from the roadway centerline. The proposed residential lots are located at least 390-feet from the roadway centerline with the remainder lot located between them and Harbison Canyon Road. Therefore no impacts from Harbison Canyon Road are anticipated and mitigation measures are not necessary to meet the County of San Diego standards.

# EXHIBIT 2-A NOISE CONTOURS



## LEGEND:

- = 60 DBA CONTOURS (First and Second Floor)
- = 75 DBA CONTOURS (First and Second Floor)



### **3.0 CONSTRUCTION ACTIVITIES**

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#### **3.1 Guidelines for the Determination of Significance**

Construction Noise: Noise generated by construction activities related to the project will exceed the standards listed in San Diego County Code Section 36.410, Construction Equipment.

Section 36.410 states:

Except for emergency work,

- (a) It shall be unlawful for any person to operate construction equipment between the hours of 7 p.m. of any day and 7 a.m. of the following day.
- (b) It shall also be unlawful for any person to operate construction equipment on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday, but a person may operate construction equipment on the above-specified days between the hours of 10 a.m. and 5 p.m. at his residence or for the purpose of constructing a residence for himself, provided that the average sound level does not exceed 75 decibels during the period of operation and that the operation of construction equipment is not carried out for profit or livelihood.
- (c) It shall also be unlawful to operate any construction equipment so as to cause at or beyond the property line of any property upon which a legal dwelling unit is located an average sound level greater than 75 decibels between the hours of 7 a.m. and 7 p.m.

For temporary activities, the County considers the 75 decibel (A) average to be based on a period of one hour.

## 3.2 Potential Noise Impacts

### a. Potential Build Out Noise Conditions

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, loaders and scrapers can reach high levels. Grading activities typically represent one of the highest potential sources for noise impacts. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours. The project site will be graded in one phase. According to the project applicant, a total of one loader, one dozer, one excavator, a dump truck and one water truck during grading activities will be required to complete the proposed grading operations. The noise levels utilized in this analysis are shown in Table 3-1.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment can range from approximately 60 dBA to noise levels in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 68 dBA measured at 50 feet from the noise source to the receptor would be reduced to 62 dBA at 100 feet from the source to the receptor, and would be further reduced to 56 dBA at 200 feet from the source to the receptor.

### b. Potential Noise Impact Identification

Using a point-source noise prediction model, calculations of the expected construction noise impacts were completed. Key input data for these barrier performance equations include the relative source to receiver horizontal separations, the relative source to receiver vertical separations, the typical noise source spectra and any barrier transmission loss.

**TABLE 3-1**

**CONSTRUCTION EQUIPMENT NOISE LEVELS**

EQUIPMENT TYPE	SOURCE LEVEL AT 50 FEET (dBA) <sup>1</sup>
Loader	70
Dozer	75
Excavator	72
Dump Truck	75
Water Truck	70

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<sup>1</sup> Reference Levels Provided by Environmental Protection Agency (EPA), 1971.

Minor grading activities will occur along the southern property line to provide the access road for the proposed lots. This activity will be intermittent as the grading progresses from lot to lot and will only require the use of the one dozer and the occasional spaying of water with the water truck. Most of the grading activities will occur near the center of each proposed lot to create a level pad area. The nearest residential property line is located to the south and is approximately 150-230 feet from the majority of the grading operations for each lot. The project site will be mass graded in one phase and will utilize one loader, one excavator, a dozer, a dump truck and one water truck. As can be seen in Table 3-2, at a distance of 150-feet the point source noise attenuation from construction activities and the nearest property line is 9.5 dBA. All other property lines are located further from the acoustic center of proposed grading operations. Given this, the noise levels will comply with the County of San Diego's 75 dBA standard at all project property lines. If complications arise that require the utilization of more equipment or long durations during the grading of the proposed access noise levels may exceed the County standard. This would require the grading contractor to install an 8-foot temporary barrier along the southern property line.

### 3.3 Mitigated Noise Impacts

According to the project applicant, a total of one loader, one dozer, one excavator, a dump truck and one water truck during grading activities will be required to complete the proposed grading operations. Noise from grading is anticipated to meet the County of San Diego 75 dBA CNEL standard for all project property lines without mitigation.

### 3.4 Conclusions

Results of the analysis indicate that the project will meet the County of San Diego 75 dBA CNEL standard for grading activities at all project property lines without mitigation.

**TABLE 3-2**

**CONSTRUCTION NOISE LEVELS**

EQUIPMENT TYPE	QUANTITY	SOURCE LEVEL AT 50 FEET (dBA) <sup>1</sup>	CUMULATIVE LEVEL AT 50 FEET (dBA)
Loader	1	70	70.0
Dozer	1	75	75.0
Excavator	1	72	72.0
Dump Truck	1	75	75.0
Water Truck	1	70	70.0
CUMULATIVE LEVELS AT 50 FEET (dBA)			80.0
DISTANCE TO PROPERTY LINE			150
NOISE REDUCTION DUE TO DISTANCE			-9.5
PROPERTY LINE NOISE LEVEL			<b>70.4</b>

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<sup>1</sup> Reference Levels Provided by Environmental Protection Agency (EPA), 1971.

#### **4.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS**

- On-Site Noise Analysis

The 60 dBA CNEL contour on Harbison Canyon Road will be approximately 260 feet from the nearest proposed noise sensitive land use on the project site; therefore no impacts from Harbison Canyon Road are anticipated. Mitigation measures are not necessary to meet the County of San Diego standards.

- Construction Noise Analysis

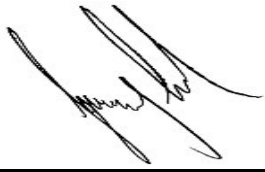
Results of the analysis indicate that the project will meet the County of San Diego 75 dBA CNEL standard for grading activities at all project property lines without mitigation.



## **5.0 CERTIFICATIONS**

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The contents of this report represent an accurate depiction of the future acoustical environment and impacts within and surrounding the TPM 21133 Residential Subdivision. The report was prepared by the following individuals including Jeremy Loudon; a County approved CEQA Consultant for Acoustics.



Jeremy Loudon  
Associate Principal

Date 11/21/08

**APPENDIX A**

COUNTY OF SAN DIEGO NOISE STANDARDS

## **Policy 4b**

Because exterior community noise equivalent levels (CNEL) above 60 decibels and/or interior CNEL above 45 decibels may have an adverse effect on public health and welfare, it is the policy of the County of San Diego that:

1. Whenever it appears that new development may result in any (existing or future) noise sensitive land use being subject to noise levels of CNEL equal to 60 decibels (A) or greater, an acoustical analysis shall be required.
2. If the acoustical analysis shows that noise levels at any noise sensitive land use will exceed CNEL equal to 60 decibels, modifications shall be made to the development which reduce the exterior noise level to less than CNEL of 60 decibels (A) and the interior noise level to less than CNEL of 45 decibels (A).
3. If modifications are not made to the development in accordance with paragraph 2 above, the development shall not be approved unless a finding is made that there are specifically identified overriding social or economic considerations which warrant approval of the development without such modification; provided, however, if the acoustical study shows that sound levels for any noise sensitive land use will exceed a CNEL equal to 75 decibels (A) even with such modifications, the development shall not be approved irrespective of such social or economic considerations.

## **Definitions, Notes & Exceptions**

"Decibels (A)" refers to A-weighted sound levels as noted on page VIII-2 of this Element.

"Development" means any physical development including but not limited to residences, commercial, or industrial facilities, roads, civic buildings, hospitals, schools, airports, or similar facilities.

"Exterior noise":

- (a) For single family detached dwelling projects, "exterior noise" means noise measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum area:
  - (i) Net lot area up to 4,000 sq. ft.: 400 square feet
  - (ii) Net lot area 4,000 sq. ft. to 10 ac.: 10% of net lot area
  - (iii) Net lot area over 10 ac.: 1 ac.

- (b) For all other projects, "exterior noise" means noise measured at all exterior areas which are provided for group or private usable open space purposes.
- (c) For County road construction projects, the exterior noise level due to vehicular traffic impacting a noise sensitive area should not exceed the following values:
  - (i) Federally funded projects: The Noise standard contained in applicable Federal Highway Administration Standards.
  - (ii) Other projects: 60 decibels (A), except if the existing or projected noise level without the project is 58 decibels (A) or greater, a 3 decibel (A) increase is allowed, up to the maximum permitted by Federal Highway Administration Standards.

"Group or Private Usable Open Space" shall mean: Usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways (Group Usable Open Space); and usable open space intended for use of occupants of one dwelling unit, normally including yards, decks and balconies (Private Usable Open Space).

"Interior noise": The following exception shall apply: For rooms which are usually occupied only a part of the day (schools, libraries, or similar), the interior one-hour average sound level, due to noise outside, should not exceed 50 decibels (A).

"Noise sensitive land use" means any residence, hospital, school, hotel, resort, library or any other facility where quiet is an important attribute of the environment.

**Action Program 4b1** Recommend programs to soundproof buildings or redevelop areas where it is impossible to reduce existing source noise to acceptable levels.

**Action Program 4b2** Study the feasibility of extending the application of Section 1092, California Administrative Code dealing with noise insulation standards to single-family dwellings, and incorporating higher standards for reduction of exterior noise intrusion into structures.

**Action Program 4b3** Require present and projected noise level data to be included in Environmental Impact Reports. Designs to mitigate adverse noise impacts shall also be used.

(2) any sound or noise exceeding criteria standards, or levels as set forth in this chapter.

(t) Water Craft shall mean any boat, ship, barge, craft or floating thing designed for navigation in the water which is propelled by machinery, whether or not such machinery is the principal source or propulsion, but shall not include a vessel possessing a valid marine document issued by the United States Bureau of Customs or any federal agency successor thereto.

(u) Supplementary Definitions of Technical Terms - definitions of technical terms not defined herein shall be obtained from the American National Standard, "Acoustical Terminology" S1. 1-1961 (R-1971) or the latest revision thereof.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88; amended by Ord. No. 8477 (N.S.), adopted 11-8-94, operative 1-1-95; amended by Ord. No. 8975 (N.S.), adopted 12-8-98, operative 1-2-99)

**Cross reference(s)**--Definitions, § [12.101](#) et seq.

#### **SEC. 36.403. SOUND LEVEL MEASUREMENT.**

(a) Any sound or noise level measurement made pursuant to the provisions of this ordinance shall be measured with a sound level meter using the A-weighting and "slow" response pursuant to applicable manufacturer's instructions.

(b) The sound level meter shall be appropriately calibrated and adjusted as necessary by means of an acoustical calibrator of the coupler-type to assure meter accuracy within the tolerances set forth in American National Standards ANSI-S1. 4-1971.

(c) For outside measurements, the microphone shall be not less than four (4) feet above the ground, at least four (4) feet distant from walls or other large reflecting surfaces and shall be protected from the effects of wind noises by the use of appropriate wind screens and the location selected shall be at any point on the affected property. In cases when the microphone must be located within ten (10) feet of walls or similar large reflecting surfaces, the actual measured distances and orientation of sources, microphone and reflecting surfaces shall be noted and recorded. In no case shall a noise measurement be taken within five (5) feet of the noise source.

(d) For inside measurements, the microphone shall be at least three (3) feet distant from any wall, ceiling or partition, and the average measurement of at least three (3) microphone positions throughout the room shall be determined.

#### **SEC. 36.404. SOUND LEVEL LIMITS.**

Unless a variance has been applied for and granted, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below, except that:

(1) Construction noise level limits shall be governed by Section 36.410 of this chapter; and

(2) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit which authorizes the noise-generating use or activity, and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, then implementation and compliance with such noise mitigation measures shall be deemed to constitute compliance with this section.

Zone	APPLICABLE LIMIT ONE-HOUR AVERAGE SOUND LEVEL (DECIBELS)	
R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-88, S-90, S-92, R-V, and R-U Use Regulations with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
R-RO, R-C, R-M, C-30, S-86, R-V AND R-U Use Regulations with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
S-94 and all other commercial zones.	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
M-50, M-52, M-54	Anytime	70
S-82, M-58, and all other industrial zones.	Anytime	75

If the measured ambient level exceeds the applicable limit noted above, the allowable one hour average sound level shall be the ambient noise level. The ambient noise level shall be measured when the alleged noise violation source is not operating.

The sound level limit at a location on a boundary between two (2) zoning districts is the arithmetic mean of the respective limits for the two districts; provided however, that the one-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be

75 decibels at the property line regardless of the zone where the extractive industry is actually located.

Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six (6) feet from the boundary of the easement upon which the equipment is located.

(Amended by Ord. No. 7094 (N.S.), effective 3-25-86; amended by Ord. No. 9478 (N.S.), effective 7-19-02)

#### **SEC. 36.405. MOTOR VEHICLES.**

(a) Repairs of Motor Vehicles. It shall be unlawful for any person within the County to repair, rebuild, or test any motor vehicle in such a manner as to cause disturbing, excessive or offensive noises as defined in Section 36.402(s) of this chapter.

(b) On-Highway. Violations for exceeding applicable noise level limits as to persons operating motor vehicles on a public street or highway in the County shall be prosecuted under applicable California Vehicle Code provisions and under Federal Regulation adopted pursuant to 42 U.S.C. 4905(a)(1)(A), (B), and (C)(ii), (iii) for which enforcement responsibility is delegated to local governmental agencies.

(c) Off-Highway. Except as otherwise provided for in this ordinance, it shall be unlawful to operate any motor vehicle of any type on any site other than on a public street or highway as defined in the California Vehicle Code in a manner so as to cause noise in excess of those noise levels permitted for On-Highway motor vehicles as specified in the table "35 miles per hour or less speed limits" contained in Section 23130 of the California Vehicle Code.

(d) Emergency Vehicles. Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations.

(e) Urban Transit Buses. Buses as defined in the California Vehicle Code shall at all times comply with the requirements of this section.

#### **SEC. 36.406. POWERED MODEL VEHICLES.**

It shall be unlawful for any person to operate any powered model vehicle except between the hours of 7 a.m. and 9 p.m. and then only in such a manner so as not to emit noise in excess of those levels set forth in Section 36.404; however, if powered model vehicles are operated in public parks at a point more than 100 feet from the property line, the noise level shall be determined at a distance of 100 feet from the noise source instead of at the property line, and



noises from powered model vehicles measured at that distance in excess of the noise limits specified in Section 36.404 are prohibited.

#### **SEC. 36.407. REFUSE VEHICLES & PARKING LOT SWEEPERS.**

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or parking lot sweeper between the hours of 10 p.m. to 6 a.m. in or adjacent to any residential zone unless a variance has been applied for and granted pursuant to this chapter.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88)

#### **SEC. 36.408. WATERCRAFT.**

Violations for excessive noise of watercraft operating in waters under the jurisdiction of the County of San Diego shall be prosecuted under applicable provisions of the California Harbors and Navigation Code.

#### **SEC. 36.409. AIRPORTS.**

All noise emanating from airport activities other than that produced by aircraft shall be subject to all of the regulations contained in this ordinance.

#### **SEC. 36.410. CONSTRUCTION EQUIPMENT.**

Except for emergency work, it shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

(a) It shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday. Notwithstanding the above, a person may operate construction equipment on the above-specified days between the hours of 10 a.m. and 5 p.m. in compliance with the requirements of subdivision (b) of this Section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction equipment is not carried on for profit or livelihood. In addition, it shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.

(b) No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than 8 hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes.

In the event that lower noise limit standards are established for construction equipment pursuant to State or Federal law, said lower limits shall be used as a basis for revising and amending the noise level limits specified in subsection (b) above.

#### **SEC. 36.411. CONTAINERS AND CONSTRUCTION MATERIAL.**

It shall be unlawful for any person to handle or transport or cause to be handled or transported in any public place, any container or any construction material in such a way as to create a disturbing, excessive, or offensive noise as defined under Section 36.402(s) of this ordinance.

#### **SEC. 36.412. SIGNAL DEVICE FOR FOOD TRUCKS.**

No person shall operate or cause to have operated or used any sound signal device other than sound-amplification equipment attached to a motor vehicle wagon or manually propelled cart from which food or any other items are sold which emits a sound signal more frequently than once every ten minutes in any one street block and with a duration of more than ten seconds for any single emission. The sound level of this sound signal shall not exceed ninety (90) decibels at fifty (50) feet.

#### **SEC. 36.413. MULTIPLE FAMILY DWELLING UNITS.**

Notwithstanding any other provisions of this ordinance it shall be unlawful for any person to create, maintain or cause to be maintained any sound within the interior of any multiple family dwelling unit which causes the noises level to exceed those limits set forth below in any other dwelling unit:

Type of Land Use			Allowable Interior Noise Level (dBA)	
			No Time	1 min in 1 hour    5 min in 1 hour
Multifamily	10 pm- 7 am	> 45	40	35
Residential	7 am-10 pm	> 55	50	35

( > greater than)

( less than or equal to)

The monitoring procedures outlined under Section 36.403 shall be followed in enforcing this section.

#### **SEC. 36.414. GENERAL NOISE REGULATIONS.**

## **APPENDIX B**

### **FUTURE 60 dBA CNEL NOISE CONTOUR MODEL**

## TPM 21133 First Floor Contours

T-Centerline, 1

475 , 45 , 15 , 45 , 10 , 45

L-Harbi son Canyon, 1

N, 48. , 848, 592,

N, 38. , 720, 590,

N, 34. , 655, 589,

N, 17. , 350, 586,

N, 8. , 152, 584,

N, 0. , 0, 582,

B-Roadedge, 1 , 1 , 0 , 0

62. , 877, 592, 592,

54. , 739, 590, 590,

49. , 680, 589, 589,

33. , 388, 586, 586,

23. , 173, 584, 584,

20. , 19, 582, 582,

R, 1 , 67 , 500

59, 700, 594. ,

R, 2 , 67 , 500

56, 650, 593. ,

R, 3 , 67 , 500

54, 600, 593. ,

R, 4 , 67 , 500

51, 550, 592. 5,

R, 5 , 67 , 500

48, 500, 592. ,

R, 6 , 67 , 500

45, 450, 591. ,

R, 7 , 67 , 500

42, 400, 591. ,

R, 8 , 67 , 500

39, 350, 590. ,

R, 9 , 67 , 500

79, 700, 593. 5,

R, 10 , 67 , 500

76, 650, 593. ,

R, 11 , 67 , 500

74, 600, 592. ,

R, 12 , 67 , 500

71, 550, 591. 5,

R, 13 , 67 , 500

68, 500, 591. 5,

R, 14 , 67 , 500

65, 450, 590. ,

R, 15 , 67 , 500

62, 400, 589. 5,

R, 16 , 67 , 500

59, 350, 589. ,

R, 17 , 67 , 500

99, 700, 593. ,

R, 18 , 67 , 500

96, 650, 592. ,

R, 19 , 67 , 500

94, 600, 591. 5,

R, 20 , 67 , 500

91, 550, 591. 5,

R, 21 , 67 , 500

88, 500, 590. 5,

R, 22 , 67 , 500

85, 450, 589. 5,

R, 23 , 67 , 500

82, 400, 588. 5,

R, 24 , 67 , 500  
79, 350, 587. 5,  
R, 25 , 67 , 500  
119, 700, 591. ,  
R, 26 , 67 , 500  
116, 650, 591. 5,  
R, 27 , 67 , 500  
114, 600, 591. ,  
R, 28 , 67 , 500  
111, 550, 591. ,  
R, 29 , 67 , 500  
108, 500, 590. ,  
R, 30 , 67 , 500  
105, 450, 589. ,  
R, 31 , 67 , 500  
102, 400, 588. ,  
R, 32 , 67 , 500  
99, 350, 587. ,  
R, 33 , 67 , 500  
139, 700, 591. 5,  
R, 34 , 67 , 500  
136, 650, 591. ,  
R, 35 , 67 , 500  
133, 600, 591. ,  
R, 36 , 67 , 500  
131, 550, 591. ,  
R, 37 , 67 , 500  
128, 500, 590. ,  
R, 38 , 67 , 500  
125, 450, 589. ,  
R, 39 , 67 , 500  
122, 400, 588. ,  
R, 40 , 67 , 500  
119, 350, 587. ,  
C, C

SOUND32 - RELEASE 07/30/91

TITLE:  
TPM 21133 First Floor Contours

## BARRIER DATA

\*\*\*\*\*

BAR ELE	0	1	BARRIER HEIGHTS							BAR ID	LENGTH	TYPE
1	-	0. *								B1 P1	138. 2	BERM
2	-	0. *								B1 P2	59. 2	BERM
3	-	0. *								B1 P3	292. 5	BERM
4	-	0. *								B1 P4	215. 2	BERM
5	-	0. *								B1 P5	154. 0	BERM
	0	1	2	3	4	5	6	7				

1	REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1		67.	500.	69. 5
2	R-2		67.	500.	69. 5
3	R-3		67.	500.	69. 4
4	R-4		67.	500.	69. 4
5	R-5		67.	500.	69. 5
6	R-6		67.	500.	69. 5
7	R-7		67.	500.	69. 7
8	R-8		67.	500.	69. 6
9	R-9		67.	500.	63. 6
10	R-10		67.	500.	63. 9
11	R-11		67.	500.	63. 5
12	R-12		67.	500.	63. 4
13	R-13		67.	500.	63. 7
14	R-14		67.	500.	62. 9
15	R-15		67.	500.	63. 2
16	R-16		67.	500.	64. 0
17	R-17		67.	500.	61. 2
18	R-18		67.	500.	61. 7
19	R-19		67.	500.	61. 7
20	R-20		67.	500.	61. 6
21	R-21		67.	500.	61. 3
22	R-22		67.	500.	61. 1
23	R-23		67.	500.	61. 2
24	R-24		67.	500.	61. 6
25	R-25		67.	500.	59. 6
26	R-26		67.	500.	60. 2
27	R-27		67.	500.	60. 2
28	R-28		67.	500.	60. 2
29	R-29		67.	500.	59. 9
30	R-30		67.	500.	59. 8
31	R-31		67.	500.	60. 2
32	R-32		67.	500.	60. 0
33	R-33		67.	500.	58. 5
34	R-34		67.	500.	58. 8
35	R-35		67.	500.	59. 1
36	R-36		67.	500.	59. 1
37	R-37		67.	500.	58. 8
38	R-38		67.	500.	59. 1
39	R-39		67.	500.	59. 0
40	R-40		67.	500.	58. 9

## TPM 21133 Second Floor Contours

T-Centerline, 1

475 , 45 , 15 , 45 , 10 , 45

L-Harbi son Canyon, 1

N, 48. , 848, 592,

N, 38. , 720, 590,

N, 34. , 655, 589,

N, 17. , 350, 586,

N, 8. , 152, 584,

N, 0. , 0, 582,

B-Roadedge, 1 , 1 , 0 , 0

62. , 877, 592, 592,

54. , 739, 590, 590,

49. , 680, 589, 589,

33. , 388, 586, 586,

23. , 173, 584, 584,

20. , 19, 582, 582,

R, 1 , 67 , 500

59, 700, 604. ,

R, 2 , 67 , 500

56, 650, 603. ,

R, 3 , 67 , 500

54, 600, 603. ,

R, 4 , 67 , 500

51, 550, 602. 5,

R, 5 , 67 , 500

48, 500, 602. ,

R, 6 , 67 , 500

45, 450, 601. ,

R, 7 , 67 , 500

42, 400, 601. ,

R, 8 , 67 , 500

39, 350, 600. ,

R, 9 , 67 , 500

79, 700, 603. 5,

R, 10 , 67 , 500

76, 650, 603. ,

R, 11 , 67 , 500

74, 600, 602. ,

R, 12 , 67 , 500

71, 550, 601. 5,

R, 13 , 67 , 500

68, 500, 601. 5,

R, 14 , 67 , 500

65, 450, 600. ,

R, 15 , 67 , 500

62, 400, 599. 5,

R, 16 , 67 , 500

59, 350, 599. ,

R, 17 , 67 , 500

99, 700, 603. ,

R, 18 , 67 , 500

96, 650, 602. ,

R, 19 , 67 , 500

94, 600, 601. 5,

R, 20 , 67 , 500

91, 550, 601. 5,

R, 21 , 67 , 500

88, 500, 600. 5,

R, 22 , 67 , 500

85, 450, 599. 5,

R, 23 , 67 , 500

82, 400, 598. 5,

R, 24 , 67 , 500  
79, 350, 597. 5,  
R, 25 , 67 , 500  
119, 700, 601. ,  
R, 26 , 67 , 500  
116, 650, 601. 5,  
R, 27 , 67 , 500  
114, 600, 601. ,  
R, 28 , 67 , 500  
111, 550, 601. ,  
R, 29 , 67 , 500  
108, 500, 600. ,  
R, 30 , 67 , 500  
105, 450, 599. ,  
R, 31 , 67 , 500  
102, 400, 598. ,  
R, 32 , 67 , 500  
99, 350, 597. ,  
R, 33 , 67 , 500  
139, 700, 601. 5,  
R, 34 , 67 , 500  
136, 650, 601. ,  
R, 35 , 67 , 500  
133, 600, 601. ,  
R, 36 , 67 , 500  
131, 550, 601. ,  
R, 37 , 67 , 500  
128, 500, 600. ,  
R, 38 , 67 , 500  
125, 450, 599. ,  
R, 39 , 67 , 500  
122, 400, 598. ,  
R, 40 , 67 , 500  
119, 350, 597. ,  
C, C



SOUND32 - RELEASE 07/30/91

TITLE:  
TPM 21133 Second Floor Contours

## BARRIER DATA

\*\*\*\*\*

BAR ELE	0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0. *							B1 P1	138. 2	BERM
2	-	0. *							B1 P2	59. 2	BERM
3	-	0. *							B1 P3	292. 5	BERM
4	-	0. *							B1 P4	215. 2	BERM
5	-	0. *							B1 P5	154. 0	BERM
	0	1	2	3	4	5	6	7			

1	REC	REC	ID	DNL	PEOPLE	LEQ(CAL)
1	R-1			67.	500.	68. 9
2	R-2			67.	500.	69. 0
3	R-3			67.	500.	68. 8
4	R-4			67.	500.	68. 9
5	R-5			67.	500.	68. 9
6	R-6			67.	500.	69. 0
7	R-7			67.	500.	69. 0
8	R-8			67.	500.	69. 1
9	R-9			67.	500.	66. 3
10	R-10			67.	500.	66. 4
11	R-11			67.	500.	66. 4
12	R-12			67.	500.	66. 4
13	R-13			67.	500.	66. 5
14	R-14			67.	500.	66. 5
15	R-15			67.	500.	66. 5
16	R-16			67.	500.	66. 5
17	R-17			67.	500.	64. 5
18	R-18			67.	500.	64. 4
19	R-19			67.	500.	64. 3
20	R-20			67.	500.	64. 2
21	R-21			67.	500.	64. 3
22	R-22			67.	500.	64. 3
23	R-23			67.	500.	64. 7
24	R-24			67.	500.	64. 7
25	R-25			67.	500.	58. 5
26	R-26			67.	500.	59. 1
27	R-27			67.	500.	58. 5
28	R-28			67.	500.	58. 9
29	R-29			67.	500.	59. 0
30	R-30			67.	500.	58. 7
31	R-31			67.	500.	59. 1
32	R-32			67.	500.	59. 0
33	R-33			67.	500.	56. 5
34	R-34			67.	500.	56. 6
35	R-35			67.	500.	56. 7
36	R-36			67.	500.	56. 5
37	R-37			67.	500.	56. 9
38	R-38			67.	500.	56. 9
39	R-39			67.	500.	57. 1
40	R-40			67.	500.	57. 1

## TPM 21133 First Floor Contours

T-Centerline, 1

475 , 45 , 15 , 45 , 10 , 45

L-Harbi son Canyon, 1

N, 48. , 848, 592,

N, 38. , 720, 590,

N, 34. , 655, 589,

N, 17. , 350, 586,

N, 8. , 152, 584,

N, 0. , 0, 582,

B-Roadedge, 1 , 1 , 0 , 0

62. , 877, 592, 592,

54. , 739, 590, 590,

49. , 680, 589, 589,

33. , 388, 586, 586,

23. , 173, 584, 584,

20. , 19, 582, 582,

R, 1 , 67 , 500

59, 700, 594. ,

R, 2 , 67 , 500

56, 650, 593. ,

R, 3 , 67 , 500

54, 600, 593. ,

R, 4 , 67 , 500

51, 550, 592. 5,

R, 5 , 67 , 500

48, 500, 592. ,

R, 6 , 67 , 500

45, 450, 591. ,

R, 7 , 67 , 500

42, 400, 591. ,

R, 8 , 67 , 500

39, 350, 590. ,

R, 9 , 67 , 500

79, 700, 593. 5,

R, 10 , 67 , 500

76, 650, 593. ,

R, 11 , 67 , 500

74, 600, 592. ,

R, 12 , 67 , 500

71, 550, 591. 5,

R, 13 , 67 , 500

68, 500, 591. 5,

R, 14 , 67 , 500

65, 450, 590. ,

R, 15 , 67 , 500

62, 400, 589. 5,

R, 16 , 67 , 500

59, 350, 589. ,

R, 17 , 67 , 500

99, 700, 593. ,

R, 18 , 67 , 500

96, 650, 592. ,

R, 19 , 67 , 500

94, 600, 591. 5,

R, 20 , 67 , 500

91, 550, 591. 5,

R, 21 , 67 , 500

88, 500, 590. 5,

R, 22 , 67 , 500

85, 450, 589. 5,

R, 23 , 67 , 500

82, 400, 588. 5,

R, 24 , 67 , 500  
79, 350, 587. 5,  
R, 25 , 67 , 500  
119, 700, 591. ,  
R, 26 , 67 , 500  
116, 650, 591. 5,  
R, 27 , 67 , 500  
114, 600, 591. ,  
R, 28 , 67 , 500  
111, 550, 591. ,  
R, 29 , 67 , 500  
108, 500, 590. ,  
R, 30 , 67 , 500  
105, 450, 589. ,  
R, 31 , 67 , 500  
102, 400, 588. ,  
R, 32 , 67 , 500  
99, 350, 587. ,  
R, 33 , 67 , 500  
139, 700, 591. 5,  
R, 34 , 67 , 500  
136, 650, 591. ,  
R, 35 , 67 , 500  
133, 600, 591. ,  
R, 36 , 67 , 500  
131, 550, 591. ,  
R, 37 , 67 , 500  
128, 500, 590. ,  
R, 38 , 67 , 500  
125, 450, 589. ,  
R, 39 , 67 , 500  
122, 400, 588. ,  
R, 40 , 67 , 500  
119, 350, 587. ,  
C, C

SOUND32 - RELEASE 07/30/91

TITLE:  
TPM 21133 First Floor Contours

## BARRIER DATA

\*\*\*\*\*

BAR ELE	0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0. *							B1 P1	138. 2	BERM
2	-	0. *							B1 P2	59. 2	BERM
3	-	0. *							B1 P3	292. 5	BERM
4	-	0. *							B1 P4	215. 2	BERM
5	-	0. *							B1 P5	154. 0	BERM
	0	1	2	3	4	5	6	7			

1	REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1		67.	500.	69. 5
2	R-2		67.	500.	69. 5
3	R-3		67.	500.	69. 4
4	R-4		67.	500.	69. 4
5	R-5		67.	500.	69. 5
6	R-6		67.	500.	69. 5
7	R-7		67.	500.	69. 7
8	R-8		67.	500.	69. 6
9	R-9		67.	500.	63. 6
10	R-10		67.	500.	63. 9
11	R-11		67.	500.	63. 5
12	R-12		67.	500.	63. 4
13	R-13		67.	500.	63. 7
14	R-14		67.	500.	62. 9
15	R-15		67.	500.	63. 2
16	R-16		67.	500.	64. 0
17	R-17		67.	500.	61. 2
18	R-18		67.	500.	61. 7
19	R-19		67.	500.	61. 7
20	R-20		67.	500.	61. 6
21	R-21		67.	500.	61. 3
22	R-22		67.	500.	61. 1
23	R-23		67.	500.	61. 2
24	R-24		67.	500.	61. 6
25	R-25		67.	500.	59. 6
26	R-26		67.	500.	60. 2
27	R-27		67.	500.	60. 2
28	R-28		67.	500.	60. 2
29	R-29		67.	500.	59. 9
30	R-30		67.	500.	59. 8
31	R-31		67.	500.	60. 2
32	R-32		67.	500.	60. 0
33	R-33		67.	500.	58. 5
34	R-34		67.	500.	58. 8
35	R-35		67.	500.	59. 1
36	R-36		67.	500.	59. 1
37	R-37		67.	500.	58. 8
38	R-38		67.	500.	59. 1
39	R-39		67.	500.	59. 0
40	R-40		67.	500.	58. 9

## TPM 21133 Second Floor Contours

T-Centerline, 1

475 , 45 , 15 , 45 , 10 , 45

L-Harbi son Canyon, 1

N, 48. , 848, 592,

N, 38. , 720, 590,

N, 34. , 655, 589,

N, 17. , 350, 586,

N, 8. , 152, 584,

N, 0. , 0, 582,

B-Roadedge, 1 , 1 , 0 , 0

62. , 877, 592, 592,

54. , 739, 590, 590,

49. , 680, 589, 589,

33. , 388, 586, 586,

23. , 173, 584, 584,

20. , 19, 582, 582,

R, 1 , 67 , 500

59, 700, 604. ,

R, 2 , 67 , 500

56, 650, 603. ,

R, 3 , 67 , 500

54, 600, 603. ,

R, 4 , 67 , 500

51, 550, 602. 5,

R, 5 , 67 , 500

48, 500, 602. ,

R, 6 , 67 , 500

45, 450, 601. ,

R, 7 , 67 , 500

42, 400, 601. ,

R, 8 , 67 , 500

39, 350, 600. ,

R, 9 , 67 , 500

79, 700, 603. 5,

R, 10 , 67 , 500

76, 650, 603. ,

R, 11 , 67 , 500

74, 600, 602. ,

R, 12 , 67 , 500

71, 550, 601. 5,

R, 13 , 67 , 500

68, 500, 601. 5,

R, 14 , 67 , 500

65, 450, 600. ,

R, 15 , 67 , 500

62, 400, 599. 5,

R, 16 , 67 , 500

59, 350, 599. ,

R, 17 , 67 , 500

99, 700, 603. ,

R, 18 , 67 , 500

96, 650, 602. ,

R, 19 , 67 , 500

94, 600, 601. 5,

R, 20 , 67 , 500

91, 550, 601. 5,

R, 21 , 67 , 500

88, 500, 600. 5,

R, 22 , 67 , 500

85, 450, 599. 5,

R, 23 , 67 , 500

82, 400, 598. 5,

R, 24 , 67 , 500  
79, 350, 597. 5,  
R, 25 , 67 , 500  
119, 700, 601. ,  
R, 26 , 67 , 500  
116, 650, 601. 5,  
R, 27 , 67 , 500  
114, 600, 601. ,  
R, 28 , 67 , 500  
111, 550, 601. ,  
R, 29 , 67 , 500  
108, 500, 600. ,  
R, 30 , 67 , 500  
105, 450, 599. ,  
R, 31 , 67 , 500  
102, 400, 598. ,  
R, 32 , 67 , 500  
99, 350, 597. ,  
R, 33 , 67 , 500  
139, 700, 601. 5,  
R, 34 , 67 , 500  
136, 650, 601. ,  
R, 35 , 67 , 500  
133, 600, 601. ,  
R, 36 , 67 , 500  
131, 550, 601. ,  
R, 37 , 67 , 500  
128, 500, 600. ,  
R, 38 , 67 , 500  
125, 450, 599. ,  
R, 39 , 67 , 500  
122, 400, 598. ,  
R, 40 , 67 , 500  
119, 350, 597. ,  
C, C

SOUND32 - RELEASE 07/30/91

TITLE:  
TPM 21133 Second Floor Contours

## BARRIER DATA

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BAR ELE	0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0. *							B1 P1	138. 2	BERM
2	-	0. *							B1 P2	59. 2	BERM
3	-	0. *							B1 P3	292. 5	BERM
4	-	0. *							B1 P4	215. 2	BERM
5	-	0. *							B1 P5	154. 0	BERM
	0	1	2	3	4	5	6	7			

1	REC	REC	ID	DNL	PEOPLE	LEQ(CAL)
1	R-1			67.	500.	68. 9
2	R-2			67.	500.	69. 0
3	R-3			67.	500.	68. 8
4	R-4			67.	500.	68. 9
5	R-5			67.	500.	68. 9
6	R-6			67.	500.	69. 0
7	R-7			67.	500.	69. 0
8	R-8			67.	500.	69. 1
9	R-9			67.	500.	66. 3
10	R-10			67.	500.	66. 4
11	R-11			67.	500.	66. 4
12	R-12			67.	500.	66. 4
13	R-13			67.	500.	66. 5
14	R-14			67.	500.	66. 5
15	R-15			67.	500.	66. 5
16	R-16			67.	500.	66. 5
17	R-17			67.	500.	64. 5
18	R-18			67.	500.	64. 4
19	R-19			67.	500.	64. 3
20	R-20			67.	500.	64. 2
21	R-21			67.	500.	64. 3
22	R-22			67.	500.	64. 3
23	R-23			67.	500.	64. 7
24	R-24			67.	500.	64. 7
25	R-25			67.	500.	58. 5
26	R-26			67.	500.	59. 1
27	R-27			67.	500.	58. 5
28	R-28			67.	500.	58. 9
29	R-29			67.	500.	59. 0
30	R-30			67.	500.	58. 7
31	R-31			67.	500.	59. 1
32	R-32			67.	500.	59. 0
33	R-33			67.	500.	56. 5
34	R-34			67.	500.	56. 6
35	R-35			67.	500.	56. 7
36	R-36			67.	500.	56. 5
37	R-37			67.	500.	56. 9
38	R-38			67.	500.	56. 9
39	R-39			67.	500.	57. 1
40	R-40			67.	500.	57. 1